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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,267	09/30/2002	Paul Cheng	60409.300903	5677

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INTELLECTUAL PROPERTY LAW OFFICE
1901 S. BASCOM AVENUE, SUITE 660
CAMPBELL, CA 95008

EXAMINER

OSBORNE, LUKE R

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,267

Applicant(s)

CHENG ET AL

Examiner

Luke Osborne

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/28/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Status

1. Claims 1-26 have been presented for reconsideration in view of Applicant's arguments. No claims have been added. Claims 1-26 are now pending in instant application.

Response to Arguments

Arguments Found Persuasive

2. Applicant's arguments dated 4/26/05 have been fully considered. The following Rejections/Objections/Advisements are substantially withdrawn and the arguments to such are persuasive. The Examiners response is as follows.

Applicant's amendment to the Claims regarding the rejection under §112 2nd paragraph is acknowledged, consequently, the Rejection regarding the content listed above has been withdrawn.

Applicant's arguments regarding the Objection to claims 1-13 is acknowledged, consequently, the Objection regarding the content listed above has been withdrawn.

Applicant's arguments regarding the Art Rejection of claim 4 are acknowledged, consequently the Rejection regarding the content listed above has been withdrawn.

Arguments Found Not Persuasive

Arguments regarding claims 1-3, 6-9, 14-16, 19-22 are found to be non-persuasive. Examiner's traversal of the Arguments provided is as follows. The rejections regarding the claims in this section are maintained.

Claim Rejections - 35 U.S.C. § 102(b)

Claim 1

Applicant Primarily Argues

Our point now is that this has Tamura's 62-bit wide packet (Fig. 2 and col. 4, In 32-33) being regarded as equivalent to Applicant's search value.

Examiners Response

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant Primarily Argues

One of ordinary skill in the art will readily appreciate that a FIFO memory is unsuitable to store a search engine database that necessarily is addressably accessed.

Examiners Response

Plain ordinary meaning of the claimed limitation as governed by MPEP 2111.01 of “—a memory to store a search database of said search results and provide instances of said search results to said controller”, is covered by Examiners citation of the reference applied. The allegation that such a memory as cited by the Examiner is not suitable for Applicant’s purposes or “addressably accessed” is not found in the claim and therefore non-persuasive.

Examiners Response

The rest of Applicants’ arguments regarding claim 1 as above are directed to the preferred embodiment of Tamura’s invention, and while providing differences between Applicant’s invention and Tamura’s, these argument are not in commensurate scope with the claimed limitations rendering them moot.

Claim 2

Applicant Primarily Argues

We can find no clear support for such in the cited portion of Tamura. Fig. 4, especially Fig. 5, and the text all clearly indicate that Tamura’s address generator 101 is a simple exclusive-OR unit.

Examiners Response

Examiner finds no basis for these arguments from the claimed limitations. Further the cited portion of Tamura’s specification says

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As described above, in accordance with the present invention, generation of the hashed address is performed by a predetermined reversible logical or arithmetic operation. (Column 12, lines 52-55)
which provides for a multitude of hash functions including the exclusive-OR.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 6-9, 19-22

Applicant Primarily Argues

The claimed invention is distinguishable under the rationale of the cited case and the standard it is cited in support of, and provides a new an unexpected result.

Examiners Response

Applicant's arguments with respect to claims 6-9, and 19-22 have been considered but are moot in view of the new ground(s) of rejection below.

Examiners Remarks

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

While the amendment has been treated for the arguments presented, Examiner notes that no arguments are presented pertaining to the other cited references on UPTO form 892.

New Grounds of Rejections

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Nonstatutory Non-Obvious Double Patenting

3. Claim 1-26 are rejected under the judicially created doctrine of double patenting over claim 1 of U. S. Patent No. 6,889,225 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Claim 1 of the instant application is a subset of the '225 patent claim 1. The application claim drawn to a subset of the patented claim. Both claims are drawn to a "search engine" as stated by the pending claim. Patent '225 refers to "a circuit to search" which as disclosed in the Specification as a "search engine". Beyond the

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preamble common recitations of similar and parallel subject matter include the hash unit, a content addressable memory (CAM) unit, and a logic unit. Each of these limitations are analogous, and are a subset of the limitations found in the '225 patent.

Claim 4 of the instant application is found to be not patentably distinct from the '225 patent claim 1. These claims are so close in content that they both cover the same thing, despite a slight difference in wording. Claim 4 has the additional limitations from claim 1 (instant application) of a search data storage storing hash pointer values, search data values, and a comparator as found in Claim 1 of the '225 patent.

The following claims correspond directly to claims in the '225 patent, Pending claim 2, '225 Claim 3, Pending claim 3, '225 claim 5, Pending claim 5, '225 claim 2.

Claim 6 is found to be not patently distinct from the '225 patent claim 11. These claims are so close in content that they both cover the same thing, despite a slight difference in wording. The recited differences not addressed per the discussion of claim 1 include, in the '225 patent limitation on line 29 "serially" is how the hash units are connected, the Pending claim 6 makes no mention as recited that the hash units are "serially" connected. However, as argued and shown in the specification the hash units are serially connected. Line 51 specifies an "output bus" on which the address value is sent to the external memory, the pending limitation of "to provide said address value to said memory" does not specify an output bus, the issued limitation is narrower in scope, which anticipates the implied connection in "providing said address value".

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The following claims correspond directly to claims in the '225 patent, Pending claim 7, '225 claim 12, Pending claims 8-12, '225 claims 14-18 (respectively), Pending claim 13, '225 claim 18.

Claim 14 recites the means for limitations of system claim 1, and have the same arguments for double patenting to '225 claim 6.

Claim 17 recites the means for limitations of system claim 4, and have the same arguments for double patenting to '225 claim 8.

The following claims correspond directly to claims in the '225 patent, pending claim 15, '225 claim 8, pending claim 16, '225 claim 10, pending claim 18, '225 claim 7.

Claim 19 recites the means for limitations of system claim 6, and have the same arguments for double patenting to '225 claim 19.

The following claims correspond directly to claims in the '225 patent, Pending claim 20, '225 claim 20, Pending claims 21-25, '225 claims 22-26 (respectively), Pending claim 26, '225 claim 26.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,182,799 to Tamura et al. hereafter "Tamura".

Regarding claim 1, Tamura teaches a search engine. See Figures 4, 9 and the corresponding portions of Tamura's specification for this disclosure. In particular Tamura teaches, " A search engine, comprising:

- a controller able to provide a search value representing a search result [Figure 4, item Control Unit, Column 4, lines 24-42];
- a memory able to store a search database of said search results and to provide instances of said search results to said controller [Figure 4, item 611, Column 4, lines 24-42];
- a hash-CAM sub-circuit (H-CAM) including [Figure 4]:
 - o a hash unit able to receive said search value from said controller and generate a hash output based there on [Figure 4, item 601];
 - o a CAM unit [Figure 4, item 602] able to store a CAM database of instances of said search values known to cause hash collisions in

said hash unit [Column 3, lines 37-47], to receive said search value from said controller [Column 4, lines 43-49], and to match said search value against said CAM database such that a CAM output is provided if a match exists [Column 5, lines 5-36]; and

- o a logic unit able to receive said hash output and said CAM output [Figure 4, item 605], to create an address value based on said CAM output if a said match exists [Figure 4, item 603: Hit Detector] and otherwise to create said address value based on said hash output [Column 6, lines 17-30], and to provide said address value to said memory, wherein said address value represents an address in said memory, thereby permitting detection and resolution of hash collisions when searching said search database of said search results in said memory [Figure 4, item 62]" as claimed.

Regarding claim 2, Tamura teaches the search engine of claim 1, "wherein said hash unit is programmable to employ different hash algorithms [Column 12, lines 52-56]" as claimed.

Regarding claim 3, Tamura teaches the search engine of claim 1, "wherein said controller is further able to program said CAM unit with new entries in said CAM database, thereby permitting programming to detect and resolve new hash collisions [Column 5, lines 5-36]" as claimed.

Claims 14-16 recite substantially duplicate limitations of claims 1-3, and are thus rejected for the same reasons as claims 1-3

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 6-9, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura of record.

Claims 6-9, 19-22 are considered to be an obvious variation of claims 1-3. Claims 1-3 are rejected with the art applied to claims 1-3 with the following rational. The claimed limitations simply recite a plurality of hash and CAM pairs, each unit (hash and CAM) together coupled in a pair. The art of record teaches such a pair of CAM and hash *supra* regarding claims 1-3. Therefore, one of ordinary skill in the art at the time of Applicants' invention would recognize the advantage of a plurality of pairs. Being able to

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process a larger hash function without the need to redesign the entire system, rendering claims 6-9, and 19-22 obvious.

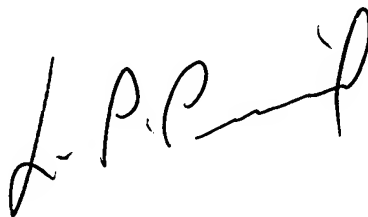
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke Osborne whose telephone number is (571) 272-4027. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRO



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